



# The International Fancy Guppy Association



Dedicated to Promoting The Fancy Guppy Hobby

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## Chameleon Guppies

By Luke Roebuck

Have you ever entered a really superb looking guppy in a show, have it win that class first place, only to have the same fish disqualified at the very next show?

One of the most frustrating things that can happen to a show hobbyist (besides having all your fish return dead) is to have their previous show winner not even considered in the very next show. I know that this has happened to me a couple of times in the past, and I'm sure to a few others. I can only attribute this to changing water conditions.

A guppy's skin contains numerous color cells known as chromatophores which control the color and pattern of the fish. These color cells are governed by the genetic characters which control color in the fish. They contain varying amounts of melanins which affect the skin color background. Some species of fish have the ability to expand and contract their cells, to a limited extent, in order to lighten or darken it's overall body color, such as to blend with its background. A guppy is known to have such limited ability, but not to any particularly great extent. This is apparently emphasized when the fish is frightened, in mating conditions or stressed.

Appreciable sudden changes in pH, temperature or salinity can unduly stress your guppy, thereby triggering contraction and adjustment of the chromatophore pigment cells which control the display colors of the fish. I have observed this condition to be especially prevalent in hybrid or newly outcrossed strains of guppies whose heterozygous genetics have not yet been stabilized. Fish shipped to areas of soft, acid water such as the Bronx from the West Coast, or fish shipped from the West Coast to the Mid West where the water may be even more alkaline are especially vulnerable to this "chameleon effect." Fish that are benched too early or too late can also undergo this color change.

You can sometimes tell if your guppy has chameleon tendencies by catching it and placing in fresh water of different conditions such as salinity, pH or hardness. The color will lighten appreciably almost immediately and may last for several hours or even days. This effect can unfortunately only be overcome by hand carrying your fish to the shows (like one notable judge does) or requesting that the fish be classified just prior to entry by a local judge of the host club, or not sending the fish at all! The drawbacks to having the fish classified is that you may lose your entry in the color class that you are trying to enter (and also the points) but you can also win another class that the judge places the fish into. This has also happened to me in the past!

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